

FISCHER-TROPSCH CATALYST ENHANCEMENT (JSS-0005)

Abstract of the Disclosure

A process of enhancing both the activity and the methane selectivity of a Dispersed Active Metal ("DAM") hydrogenation catalyst is disclosed wherein the DAM undergoes low temperature oxidation in a slurry phase to form a stable, unique oxidized catalyst precursor that is subsequently reduced to form an enhanced catalyst by treatment with hydrogen-containing gas at elevated temperature, wherein reducible promoter metals comprising one or more of rhenium, ruthenium, palladium, iron and cobalt are added to the DAM. The promoter metals are mixed with the oxidized catalyst precursor as a solution of their reducible salts. The oxidized catalyst precursors are again recovered from the mixture and treated with hydrogen-containing gas to simultaneously form the metals and reactivate the DAM catalyst.